



# Enabling Decentralized Digital Assets Management and Investment

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OPX Foundation

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## I Summary

In 2008, the financial crisis swept the world, with transparency and credibility in the financial markets hitting rock bottom. As a result, enhanced regulation and supervision on financial services can be seen in Wall Street, Europe and even Asia. The logic and transparency of the supply chain of capital assets, however, remain unchanged.[1] History is repeating itself. As a result, the concerned parties increasingly hope that the distributed ledger technology can be developed into an open, secure, scalable, and transparent approach, so that they can make transactions with trust and confidence.



In 2008, the financial crisis swept the world, with transparency and credibility in the financial markets hitting rock bottom. As a result, enhanced regulation and supervision on financial services can be seen in Wall Street, Europe and even Asia. The logic and transparency of the supply chain of capital assets, however, remain unchanged. [1] History is repeating itself. As a result, the concerned parties increasingly hope that the distributed ledger technology can be developed into an open, secure, scalable, and transparent approach, so that they can make transactions with trust and confidence.

The essence of blockchain is to bring the feasibility of establishing trust in decentralized transactions through distributed ledger technology. For almost all industries with a supply chain structure, whether it is pharmaceutical logistics, medical records, food processing, rare minerals, or even large fixed assets (such as real estate), the key to stable operation and gradual expansion of influence lies in the participants' auditability, as well as decentralized transparency and reliability. Taking this as a starting point, we can regard financial products as the supply chain of first-tier investment markets and second-tier investment markets. On the one hand, it is a cash flow supply chain, and on the other hand, it is an asset supply chain of stocks and financial derivatives. The ultimate goal of the blockchain is to deliver on this promise in a transparent way. It seems that regulators' dream is about to come true. [1] Blockchain technology can build an efficient and reliable value transmission system. Based on Internet thinking, the system integrates the new data structure of blockchain and facilitates the Internet to become a network infrastructure BaaS (Blockchain as a Service) that builds social trust, so that an effective delivery of value can be brought to life. We call it the Internet of Value.[3] We have noticed that the blockchain has provided a new type of social trust mechanism, which has laid a new cornerstone for the development of the digital economy. The "Blockchain Plus" application innovation indicates the new directions for industrial innovation and public service.

The birth of the blockchain marks the beginning of the construction of a truly trustworthy Internet of value for humanity!

In the traditional financial asset management industry, both bankers and fund managers are seen by

the common people as financial exploiters. Meanwhile, although the Internet has upgraded means of transaction for investment and wealth management, it has only solved the problems of online transactions through Internet technology. Money has been flowing into platforms such as Tencent, Ant Financial, JD Finance, and Du Xiaoman Financia, all with a valuation of hundred billion level. Some of the companies even have a gross profit of tens of billions, with a valuation of 1 trillion RMB. With centralized traffic, the Internet has helped build a bigger financial platform.

The Internet has deviated from what it used to be, and Internet finance can no longer be regarded as "P2P utopia".

What OpesProtocol plans to do is disintermediation, so that peer-to-peer transactions can be truly realized in digital currency investment and financial management, and that investors clearly know the potential risks, actual rate of return, service providers' fees, and commission rate of their invested projects and fund portfolio, aiming to maximize benefits for investors.

The earliest application of the blockchain was Bitcoin (BTC). Ethereum's smart contract era brought all kinds of opportunities for financial autonomy in all fields. If the blockchain is considered an opportunity to subvert the centralized Internet, or we say it is the 2.0 era of Internet value, the first thing that needs to be overturned is investment in digital assets. If the very basic investment is still in a centralized form with multi-level intermediary and supervision, with failure to subvert or upgrade the very origin of the industry, how can we go about and talk about subverting the production relations of other industries? The greatest charm of the "Blockchain + Token" mode is its own financial and distributed attributes.

What OpesProtocol is planning to do is to take the lead in the industry of blockchain and finance to get rid of tycoons. We will bring into existence transparent information and a self-running ecology, as well as further upgrade Internet Finance so as to provide a platform for those who used to be known as "financial workers" to directly communicate with investors, allowing investors to truly track the real-time conditions of their investment assets.

OpesProtocol hopes that more digital currency investors will join us and build an autonomous blockchain financial ecology.

# II Opes Protocol Introduction

The name for OPES Protocol is derived from the Latin word for wealth. The blockchain technology is used to empower the digital asset investment industry, and facilitate an efficient and free flow of upstream and downstream resources with Token economy, creating an efficient and transparent ecosystem for decentralized digital asset investment. The OPES blockchain project is managed by the Blockchain OPES Foundation.



## 2.1. Market Situation

Up to the end of 2017, the total market value of cryptocurrency increased to 700 billion USD from 17.7 billion USD at the beginning of the same year. Compared with mature financial assets including global stock market with current value of 73 trillion USD, bond market of 215 trillion USD, and the total value of derivatives of 544 trillion USD, as some emerging financial assets, we believe digital assets are still at early development stage. According to such estimate, the total market of global cryptocurrency (about 700 billion USD according to the statistics released in December 2017) is no more than 0.5% of total global financial market, so the market of cryptocurrency and its related services still have large space to grow.

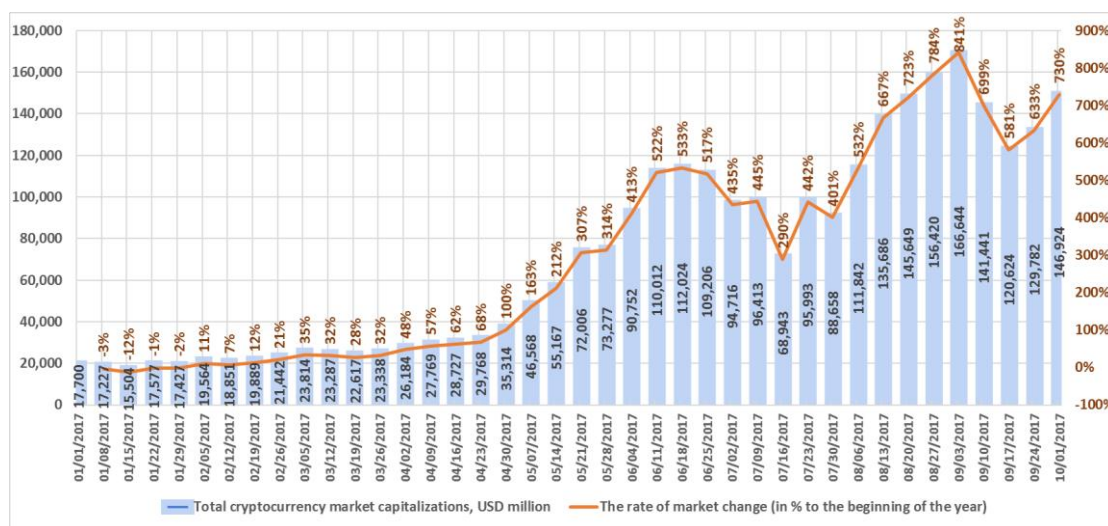


Figure 1 The Growth Curve of Total Virtual Currency Market Volume curve of digital assets Note: 2017/1~2017/10  
(the data from November to January 2018 is not incorporated due to instability)

The cryptocurrency investment and financial management market is just emerging, and the whole industry is still in its infancy. At present, the cryptocurrency market are mainly composed of retail investors. the future will gradually show the primary market is given priority to with investment

institutions, secondary market investment with retail investors and some professional teams  
 With the development of the encrypted digital currency investment markets around the world, more and more institutional personal and company begin to allocate cryptocurrency or digital assets, more and more various types of derivatives and quantitative tools have sprung up. At present, investment opportunities in traditional financial markets are gradually decreasing, and investment returns of traditional finance are gradually declining.

Good yields will be about 10% per year in traditional finance, while monthly or even weekly earnings from cryptocurrency assets can easily exceed 10%. The high return on cryptocurrency investment is attracting more professional investors, fund quantitative teams and so on.

In reality, almost all large-size financial service companies are exploring and actively participating the researches on digital currencies and virtual assets. At the same time, more than 40 countries worldwide have established 320+ cryptocurrency exchanges to accommodate cryptocurrency investors all over the world, while some countries like Japan, Canada are studying blockchain and cryptocurrency strategies to provide regulatory supports, policies, regulations and compliance of cryptocurrency. Digital currency assets will be indispensable to new assets.

Market will better study the value of digital currency assets, better establish a digital currency asset management and investment ecology, and jointly embrace the rapidly rising digital asset economy with various industries.

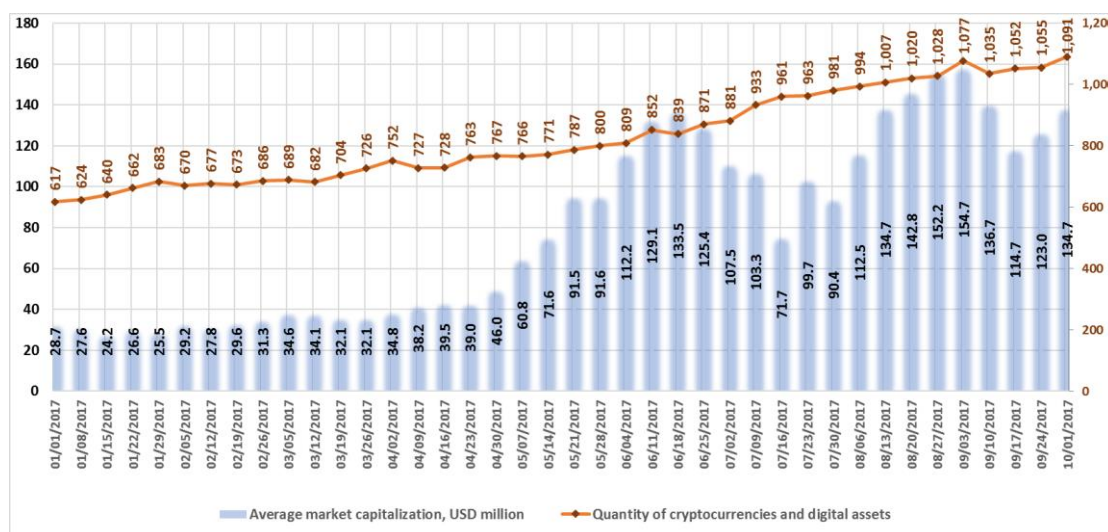


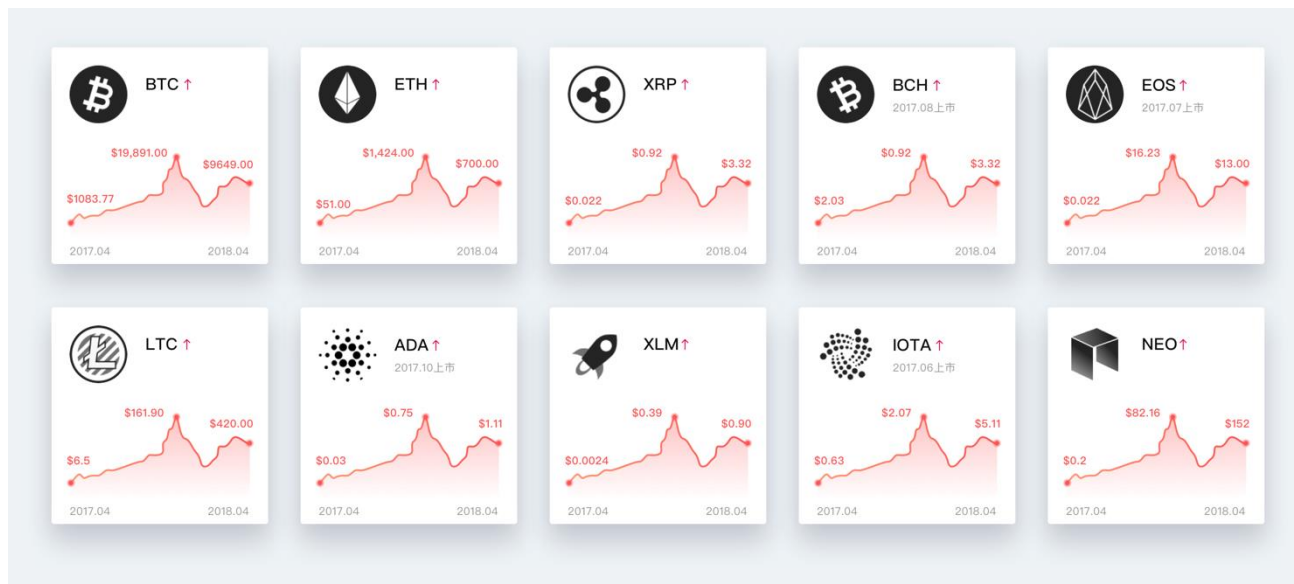
Figure 2 The Volume of Virtual Currencies and Assets[5]

## 2.2. Industry Status Quo and Challenges

Dividends of encrypted digital currencies that broke out in the early stages of development have brought hundreds or even thousands of times in return to many individual investors. At present, there are more than 1,000 tokens in the digital currency market, including Bitcoin, Ethereum, Ripple, and



Litecoin. The unit price of Ether rose from 8 USD at the end of 2016 to a record high of 1,400 USD in January 2018. It currently remains at around 700 USD, which is at a nearly 100-fold increase. Litecoin’s unit price was only 4.51 USD on January 1, 2017, but in December 2017, the unit price of Litecoin soared to 340 USD, 80 times of the original price.



However, as the bitcoin failed to hit the 20,000 USD goal at the end of 2017, the ICO bonus came to an abrupt end. Deloitte conducted a survey on nearly 86,000 blockchain projects on GitHub, the world's largest social programming and code hosting site. The result reveals that as of today, only about 5% of the projects has survived, and 90% are already inactive. According to TongBu Caijing (a major media on blockchain), 87.5% of the 247 kinds of virtual currencies that landed on major exchanges after 2018 have been lingering lower than their debut prices for a long time. If you count in those that had failed on debut, and then became listed again on exchange platforms with a lower price, the ratio is close to 90%. Those able to gain more than 10 times is lower than 3%. (Source: coinmarketcap and TongBu Caijing database)

Since February 2018, the professionalism and challenges with regard to investing in the encrypted digital currency market have gradually emerged, and the entire investment market has also witnessed significant features such as polarization of benefits and the lack of liquidity. In the encrypted digital currency asset investment market, both individual investors and professional institutional investors are challenged with restraints and pain points. At the same time, more individuals and institutions that have not entered the encrypted digital currency asset market need more appropriate methods and guidance to join the party.

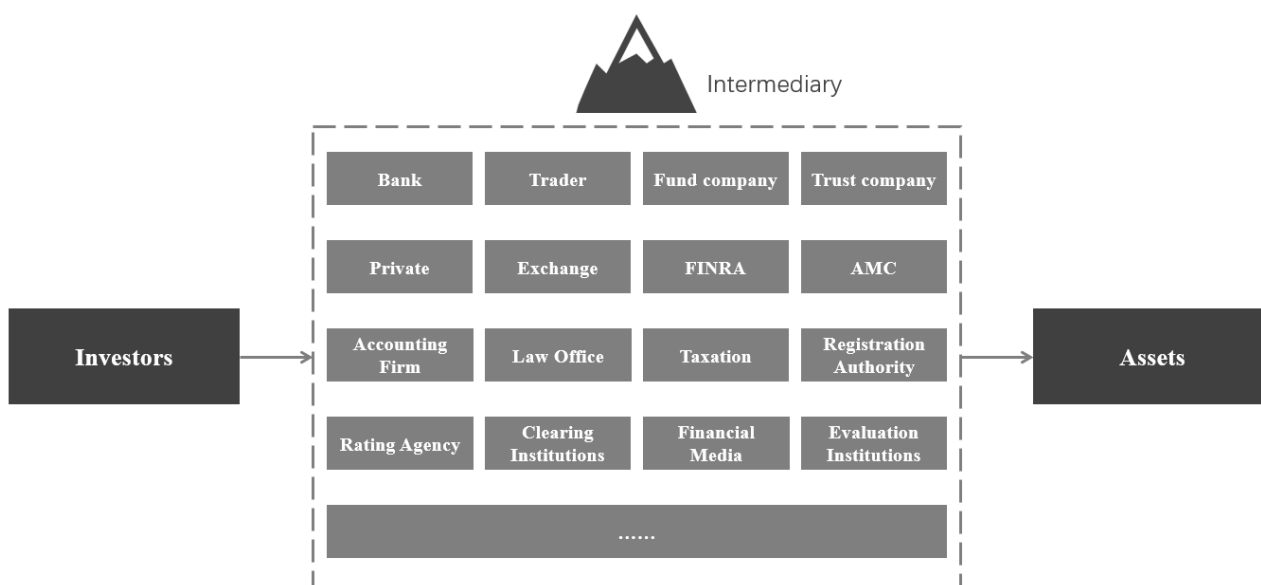
For individual investors are in a high risk but low yield dilemma, due to lack of industry knowledge for encrypt digital currency, lack of ability to identify and select digital currencies, and lack of secondary operating skills on digital currency. On one hand, individual investors do not have sufficient time and enough quantitative trading tools to deal with encrypted digital currency asset trading with 7\*24 high-frequency and large-volatility. On the other, they are also not able to deal with complex



professional processes and operations such as multiple exchange account registration, KYC certification, decentralized wallet, cold wallet, as well as other operating skills for encrypted digital currency financial derivatives.

For professional digital currency investment institutions, the current circulation of encrypted digital currency assets is poor, and the associated related quantitative development tools and asset management products are scarce and insufficient. Compared to traditional financial markets, the encrypted digital currency asset market lacks tools such as strategy writing, backtesting, and quantification algorithms. A large number of traditional financial practioners cannot fully apply their skills in the digital currency asset market. Meanwhile, trust and connections are gradually vanishing between professional investment institutions and individual investors. It is difficult to achieve transparency and trust for funds trusteeship and actual performance due to the special nature of encrypted digital currency assets.

For traditional investment individuals and institutions, the existing asset management model faces issues such as high valuations of equity investments, large investment amounts, long-lasting investment cycles, and small variation of funding channels and sources. The infrastructure of contemporary asset management system originates from the Netherlands. Although the trading rules have evolved over the centuries and the introduction of various information technologies has continued, there has been no qualitative change. During the evolvement of “classical” asset management ecology, the fundamental dilemma is that the initial investors are drifting further away from the ultimate assets:



At present, the "classical" asset management information is lagging behind and it is becoming crippled, distorted and falsified. Rights is constantly being deprived, and benefits are being reduced. The main pain points are as follows:

1. The investor’s right to know is not guaranteed, and information is constantly “post-processed” in the transmission process;

2. Unauthorized classification management of investors, and implementation of manipulated "type segregation";
3. So-called rating agencies score various types of assets in the name of protecting investors, always resulting in mass investors ending up paying for the most toxic assets;
4. Ownership of investors has been repeatedly exploited by the evolving intermediary agencies under various so-called "legal protections" of the law. Not much ownership is left for investors;
5. Investors' decision-making power is often "represented" under the isolation of layers of agency;
6. Investors' privacy become insignificant. Instead, they are being arbitrarily publicized and checked;
7. The original asset management ecology has turned most of the assets into "cages". All investors are trapped in this fancy looking cage. People outside want to get in and see what it's like while people inside want to get out but can't succeed.
8. Investors today only gets to passively accept results of operation, while the rights to operate and supervise become nothing but a fairy tale.

The use of blockchain technology has brought in new investment targets for investors. Asset management refers to the behavior that the asset manager conducts operations on client assets, provides securities, funds and other financial products for clients, and charges fees according to the methods, conditions, requirements, and restrictions as stipulated in the asset management contract.

### 2.3. What Opes Protocol Is

Opes Protocol (Opes means wealth in Latin, it brings wealth to people) is a set of solutions to decentralize the ecosystem for digital assets investment. It contains a variety of digital asset investment protocols. OPX is the foundation of the Opes Protocol ecosystem. Like the Latin word for wealth, the OPX currency powers the Opes Protocol's financial ecosystem to help maintain the transparency and integrity of the network and to certify transactions, while rewarding participants through incentives, so as to bring lasting stability to the OPX network.

Theoretically speaking, Opes protocol can support any smart contract platform without limiting the underlying public chain. Opes will implement the protocol based on a relatively mature Ethereum technology stack, and develop relevant landing DApps and development kits, build community of investors and fund managers, verify the sustainability of the economic system and robustness of relevant protocols, and iteratively update the protocol itself.

The current application of blockchain faces many practical problems, such as poor public chain tps, excessive use of resources by smart contracts, single popular DApp blocking the entire network, high threshold for development, and not being open up and convergent. Opes chooses not to blindly believe and overly rely on future technological iterations. Instead, we rationally choose the current proven technical route, and clearly recognize current technical limitations, make reasonable compromises

between decentralization and efficiency, and open source core code, so as to achieve an asset investment ecosystem that's distrusted and efficient. Opes will utilize the theory of economic incentives to revise the cost structure of the digital asset investment industry and increase the free connection between investors and high-quality fund managers. Opes will utilize smart contracts to realize the distribution, subscription, share transfer, redemption, dividend distribution, commission calculation of digital asset fund products and financial derivatives, and make use of the nature of the blockchain - open and transparent, and cannot be tampered with, record all the firm operations of traders, profitability and customer evaluation, and encrypt storage, so as to ensure the safety of investors' funds, and at the same time protect the interests of fund managers. This way, a good investment strategy can be justly demonstrated to investors, and bring reasonable returns to investors. Opes's vision is to empower digital asset investment industries with the blockchain technology, utilize Token economy to facilitate the efficient and free flow of upstream and downstream resources, and create an efficient and transparent ecosystem for decentralized digital asset investment.

#### **2.4. The Performance of Opes Protocol in the Outburst of Blockchain + Finance**

The Opes protocol is not only an application of blockchain finance. It is more of a protocol for the blockchain asset management industry. It provides a protocol layer for scenario applications in the blockchain financial ecosystem, and is endowed with proven scalability and reliability.

Its early positions in the entire ecosystem was: Ethereum provided computing functions, IPFS provided data storage functions, Opes protocol utilized both to implement basic functions of some digital currency asset management markets, and it was completely open source; then developers of digital currency asset management industry and fund practitioners, such as fund platforms (corresponding to Yu Ebao), equity crowdfunding platforms (corresponding to Kickstarter) or any peer-to-peer transactions, could directly use the algorithms provided by Opes protocol to implement specific decentralized management business models.

Before Opes protocol, every Internet Finance application must start from the very basics of Ethernet, such as how to create an account, how make investment and transactions. It was very complicated. Now that the Opes protocol provides these basic functions, the developer only needs to focus on the specific business logic. Fund managers, on the other hand, can focus more on the returns of their investment portfolios. Protocol layer is currently what draws the most attention from blockchain investment. Without a good protocol layer, it is impossible to build real applications. The technical threshold for establishing a high-quality and efficient protocol layer is very high, and thus a very good developer team is essential.

To advance the rapid development of the digital asset management industry, Opes also provides a complete blockchain solution for the asset management industry. Opes protocol will create a complete ecosystem. From the perspectives of data link in the underlying operating system, and the smart

contract system in the vertical field of asset management, Opes will provide all-round system support for the decentralized asset management industry - digital currency, including its issuance, management, trusteeship, finance, settlement, auditing, supervision, and dispute arbitration.

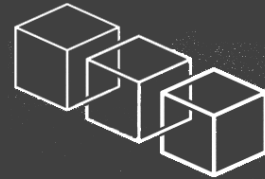
The Opes protocol will support an open and highly-expanded ecosystem. We will conduct in-depth cooperation with other industries in the industry, including identity authentication, content dissemination, forecasting markets, asset lending, trusted data validation, and cross-chain protocols. From the digital financial infrastructure.

OPES will gradually solve the problems existing in the digital finance field through blockchain technological innovation, financial rules optimization, and upstream and downstream ecological construction. We will upgrade the Internet financial system to ensure Investor assets are safe and benefits are maximized, standing in the investors' shoes.

OPES hopes to use blockchain technology to reshape an Ant Financial ecosystem.

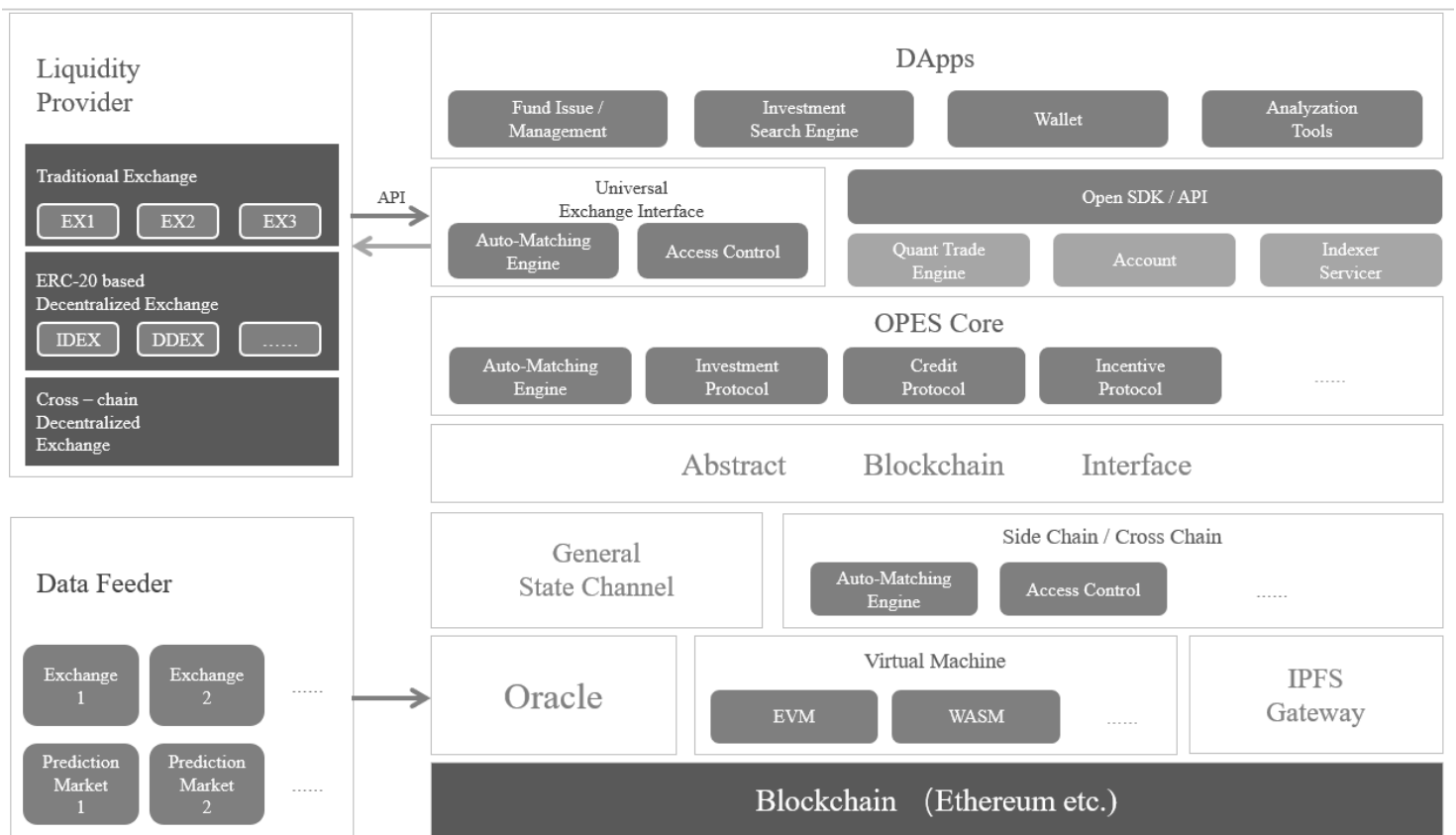
# III. Opes Protocol and Technical Framework

The OPES Protocol is a protocol suite to deal with decentralized digital investment, providing protocol layer support for various types of DApps or third-party digital currency financial platforms.



The Opes protocol is built upon many existing open source projects, protocols, and distributed systems. We wouldn't have been able to achieve Opes without the work of predecessors. The Opes Protocol will contain a set of interfaces for smart contracts. The actual business logic can be realized through implementing the interfaces on specific smart contract platforms.

## Technical Framework:



### 3.1. Design Concept

Theoretically speaking, Opes protocol can support any smart contract platform without limiting the underlying public chain. Opes will implement the protocol based on a relatively mature Ethereum technology stack, and develop relevant landing DApps and development kits, build community of

investors and fund managers, verify the sustainability of the economic system and robustness of relevant protocols, and iteratively update the protocol itself.

Opes records all asset managers' investment operations, recharge and withdrawal operations, current fund status, etc., on the chain. All actions are open and transparent.

Data outside of the scope of core critical data, such as descriptive text, pictures, ratings, credits, etc., will be stored on IPFS and linked with relevant smart contracts. This is to achieve better scalability and reduce unnecessary fuel costs. When the front end DApp creates a data object and saves it on IPFS, a unique hash will be created to reference the data object. Subsequently, this hash will be saved to the blockchain.

Opes looks forward to the technological breakthrough of the Plasma protocol and sharding on Ethereum. We also expect the improvement in circulation of “Filecoin” on IPFS and the efficiency of the overall network. While gradually perfecting the Opes platform. Opes will continue to integrate the latest proven technologies along the way.

In summary, Opes has three important principles in architecture design:

1. Opes strives to decentralize and distrust. Opes does not want any single centralized node, including the Opes operations team itself, to control the entire network.
2. Opes hopes to stand on the shoulders of giants, instead of reinventing the wheel.
3. Opes will try its best to ensure a balance between computing performance and user experience.

## 3.2 Core Components

### 3.2.1 Smart Contracts

It is a set of smart contracts written in Solidity.

Opes will store the core data through smart contracts, and in the meantime finish the funding, investment, dividend payment and fees calculation automatically. Opes is going to adopt Abstractive Smart Contract Layer to realize the deployment and update of the contracted code. All the contracts will contain an encapsulation protocol which always directs to the latest code. Previous version of contracts will be mapped into the control protocol before, and are able to be visited when necessary. All the fund contracts are going to be registered in the registry smart contract.

### 3.2.2 Front End DApp

Opes DApp is designed to be an open-source React or JavaScript application which can interact with Ethereum, IPFS and index server.

DApp will provide users with a friendly interface of smart contracts with functions like fund issuing, allocation, subscription and dividend payment. Opes DApp will take js-ipfs to interact with IPFS while web3.js is adopted to interact with Ethereum through wallet client end like MetaMask. Opes encourages developers to write a DApp for better user experience based on Opes protocol.

A typical contract interaction is showed as following when a fund manager issues a new digital asset fund by creating a fund contract:

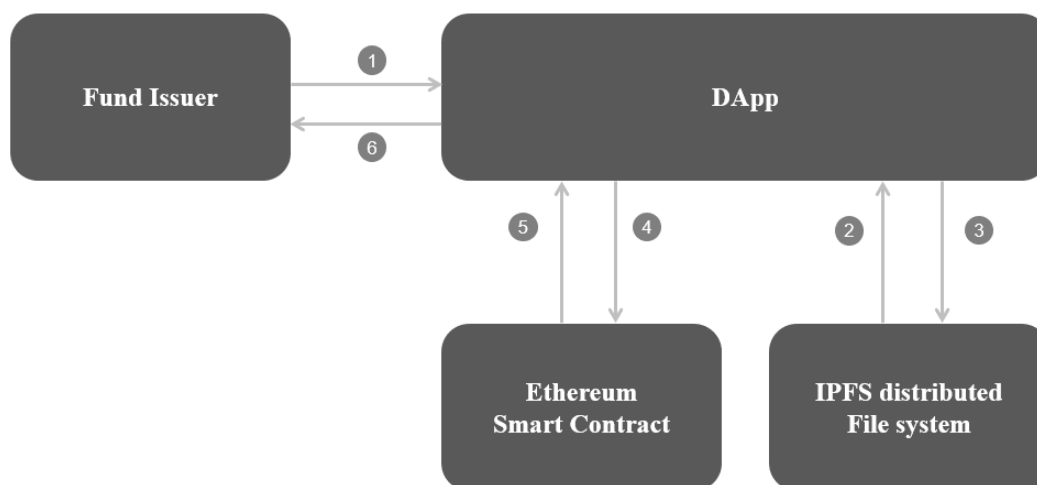


Figure 3 Process of contract interaction[6]

1. Fund manager logins into Opes DApp
2. DApp generates a JSON object (model details will be present in the following text) containing all kinds of basic information through the interaction with the fund manager. DApp configures that the JSON object complies with the standard model and upload it to IPFS.
3. IPFS returns the hash of the uploaded.
4. DApp sends the hash to the smart contract factory.
5. The smart contract factory returns a txid.
6. DApp will supervise the unfinished transaction and notice the user after it finishes successfully.

### 3.2.3 Index Server

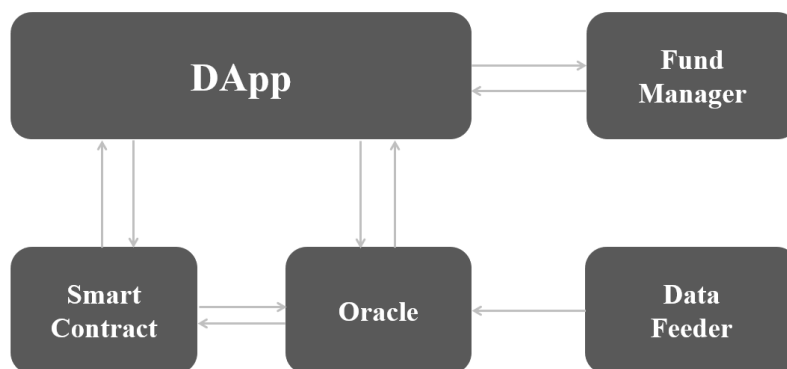
Index server is an application of open-source server end, which can constantly read the latest information of fund contracts in the registry smart contract and simultaneously obtain relevant files and data. All the data read will be stored and indexed to realize the quick search and conditional filtering in DApp. Index server is crucial to the extendibility of network and Opes index server will provide the platform with basic functions of search and filter. Opes encourages developers to bifurcate the original code to develop their own blockchain applications that are efficient and extendable.

### 3.2.4 Oracle Machine

Oracle machine is a reliable entity that can import information of external world through signing to allow certain smart contracts to react to the uncertainties of the external world. Oracle machine is



tamper resistant, stable and audit available. Its economic incentive mechanism guarantees its operation.



When smart contracts of Opes digital token fund pay the dividend, the profits can be calculated only if the market price of the digital token is obtained (such as ETH/USDT). Now the third-party system (oracle machine) can supply a port for checking the market price, including the ETH/USDT, which is also reliable, accurate, tamper-resistant, stable and open to audit. Oracle machine will be activated automatically when dividend smart contract is executed. After getting the market price, oracle machine will initiate a transaction to the blockchain, of which the data block is endowed with the price information of ETH/USDT. With the synchronization of every mining node block, the consensus of dividend contract is secured.

Alternative to exchange centers, prediction market is another important source of necessary data for Opes protocol. Data from prediction market essentially come from individuals rather than machines. Therefore, people whose personal interests have been bound up can all become the data providers. They will not sacrifice their interests for fake data, which ensures the reliability and authenticity of the data.

Usually one oracle machine is enough. However, when dealing with a great amount of assets, it is often the case that one oracle machine is unable to generate data reliable enough. Hence, a solution of multi-oracle-machines has been put forward. For example, as three or more of five oracle machines give out a same price, then a transaction at the price will be initiated to the blockchain. The model consisting of several oracle machines is also called oracle machine network.

### 3.2.5 State Channels

State channel refers to the technology of off-chain transaction and updating other state. What happens in a state channel is highly secured and unchangeable. When there is any problem emerging, Opes presents the possibility to shift back to on-chain transaction, close the channel and release the locked assets.

Payment channel has come into being for years, such as the Lightning Network of Bitcoin. State channels can be used not only for payment, but also updating any state within the blockchain, for example, revising the internal state of smart contract. In 2015, Jeff Coleman explained state channels

at length for the first time.

#### ✧ The example of fund manager Alice

Alice, a fund manager, creates the fund contract on Opes and she will get the dividend if the fund is managed well. To achieve that, the simplest way is to create a smart contract in blockchain (Ethereum) that can implement the rules of fund transaction and track the operation of the manager. Every action conducted by managers will trigger a transaction to smart contracts. Upon the payment of dividend, smart contracts will give Alice a certain amount of the gains.

This method is feasible but quite inefficient and slow. It is obviously a waste of resources that Alice asked the whole Ethereum to deal with the fund contract. Every time Alice wants to operate the fund, she is charged by gas. Her next step is only permitted after several blocks are mined out. But Opes, on the contrary, can design a system and help Alice reduce the on-chain operation as much as possible. With Opes, Alice is able to update state of fund contract off-chain and at the same time operate the fund. Besides, Alice can be confident that she can switch to the main chain of the block (Ethereum) when necessary. Opes entitles this system state channels.

#### ✧ Applications and Restrictions of Opes Fund Contract

State channels play an important role in frequent contract interaction because they improve the on-chain operation rigorously. For a DApp, following points should be considered when deciding whether to channelize it or not:

##### a. State channels are dependent on the validity

If the channel participants lose the internet connection during the challenge period, they probably cannot make response before the challenge ends. However, participants can ask others to save copies of their state and pay for the validity of the copies.

##### b. Fund managers will exchange a great number of state updates in a long period of time

The state channel created by deploying judge contract contains an initial cost. But the cost of updating every state in the channel will be kept as extremely low after the deployment.

##### c. Fund managers are comparatively fixed in a single contract

Judge contract must be always informed of the certain part of channel entity, namely the address. Opes can add or delete members on the condition that every time the contract is going to be revised.

##### d. Fun management requires strict privacy

Since all the processes happen inside the channels among participants rather than being broadcast and recorded on the chain, only the initial and final transaction would go public.

##### e. State channels are instant

As most stakeholders of the fund contract sign the same state update, the state would be taken as the final state. When necessary, the participants can forcibly put the state on the chain.

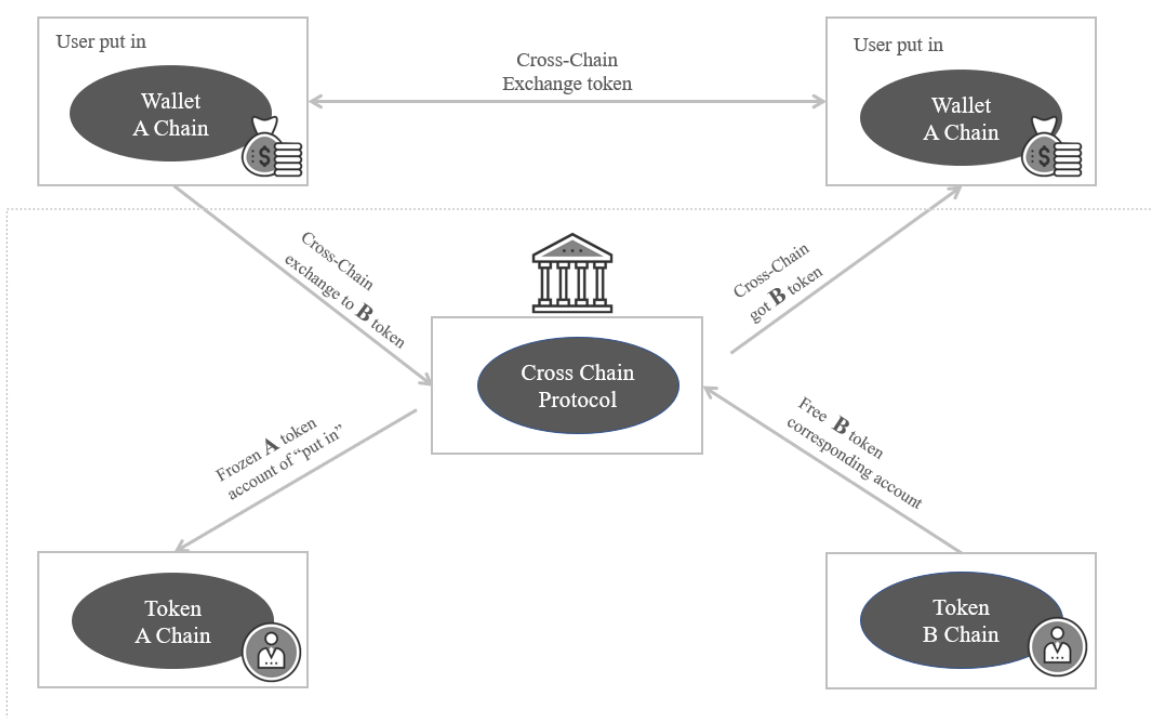
### 3.2.6 Cross-chain model

To establish the investment economy of decentralization and distrust, there are two aspects that should be carefully thought about, distrust of fund managers and fund security. A complete fund (probably the digital assets from multi chains) management/flow/dividend based on smart contracts requires for the decentralized token-to-token transaction brought by cross-chain technology. The goal is cross-chain smart contracts.

So far, the main cross-chains technology includes:

1. Notary schemes
2. Sidechains/relays
3. Hash-locking

Decentralized trans-token exchange center is the fundamental cross-chain model. No matter how complicated the cross-chain model is, the nature of it can be explained as following:



**There are five basic steps of cross-chain operation:**

1. Users use A-chain tokens to initiate a request to cross-chain protocol for exchanging B-chain tokens.
2. Cross-chain protocol locks the A-chain tokens.
3. Cross-chain protocol locks the B-chain tokens worthy of same value.
4. Sending the B-chain tokens to the users’ B-chain wallet address and at the same time, taking the A-chain tokens locked by the users.
5. Users transfer the A-chain tokens from the wallet and receive the B-chain tokens equal to same value.

Real distrusted exchange of digital assets can be automatically achieved with the combination of three technologies mentioned above. If Opes wants to realize the cross-chain fund management based on fund contracts, it is in need of:

1. Portable assets. The assets can be transferred and used among various chains.
2. Atomic swap. Cross-chain assets exchange is safe and simultaneous. (Two users from different chains initiate two transactions, which can only be executed or cancelled in two account book simultaneously. This is called atomic swap.)
3. Cross-chain oracle issues are the ability to obtain information of other chains and read and certificate events. Sometimes, the execution of smart contracts in a chain (A chain) is triggered by another chain (B chain) conditionally. Therefore, A chain should have state of all relevant conditions in B chain. In other words, C chain has the ability to obtain information of other chains and read and certificate events.
4. Asset encumbrance. In some cases two relevant assets in chain has to be locked at the same time, such as mortgage and distraint enforced by the court.
5. General cross-chain contracts. For an instance, delivering dividend in B chain according to the stock certificate of A chain.

Cross-chain technology involves plenty of technical issues, with great difficulty in realizing many details. At present, cross-chain distrusted token-to-token operation can be roughly accomplished in cost of great efficiency in cross-chain SPV certification. Another issue of concern is liquidity: fund managed by fund contracts is usually of big amount so decentralized cross-currency transaction probably cannot provide necessary liquidity.

More technical barriers are facing the cross-chain fund smart contracts. Opes intends to put more efforts in multi-sig Notary Schemes and Distributed Private Key Control to achieve the fund flow of zero trust.

### 3.2.7 Liquidity Provider

Opes, a decentralized and distrusted investment platform of digital assets, has to ensure that smart contracts have control of the real fund such as the flow, transaction and supervision and dividend.

#### ✧ 3.2.7.1 Decentralized Transaction Exchanges for Host Chains

Smart contracts themselves are able to natively process the digital assets in the host blockchain (such as Ethereum). Typically, Opes introduces a decentralized token-to-token exchange based on ERC20 digital asset system like IDEX or DDEX. Theoretically, Opes fund contracts (anchor token is ETH) can complete a distrusted operation of a certain amount of fund. Currently, more and more importance has been imposed on decentralized exchange by participants for they can provide more liquidity.

#### ✧ 3.2.7.2 Cross-Chain Decentralized Exchanges

Technology like Polkadot and COSMOS that are built on relays/sidechain technology, as well as

WanChain and Fusion that are built on distributed private key control technology, is going to develop cross-chain decentralized exchanges respectively based on their individual technology. With the development of technology and the prevalence of Internet of Blockchain, decentralized cross-currency exchanges will provide more support for Opes in terms of distrusted liquidity.

#### ✧ 3.2.7.3 Centralized Exchanges

The excessive liquidity that cannot be digested by decentralized channel will be taken over by traditional centralized exchanges. Opes is going to establish strategic partnership with numerous centralized exchanges capable of great liquidity, set up special secured account, cooperate with various insurance companies to guard the safety of the fund and support the block transactions. Opes will open a huge fund pool for the exchanges' accounts to guarantee enough liquidity.

#### ✧ 3.2.7.4 Over The Counter (OTC)

OTC will increase the interaction between classic institutes and virtual asset institutes, which is reflected in the growth of liquidity and flexibility of digital assets Opes protocol supports the business model of OTC and enhance the connection between financial scenario and traditional assets in Opes ecology by supporting and managing clearance of the assets.

### 3.3 Opes Fund Protocol for Digital Assets

Fund products of digital assets are the core of Opes, and other sectors are all built on the fund smart contracts. This chapter elaborates on the design of smart contracts, data schema and interactive interface.

#### 3.3.1 Smart Contract Interface

The issue and management of Opes fund is finished on the basis of smart contracts. Importance has been attached to the logic of the contract itself and the storage of key data. The flow of the real fund will be processed in a decentralized/distrusted way in accordance with the specific situations.

This interface contains the key properties and core operation of the fund. Opes will provide the interface with diverse basic templates that serves as the foundation of operation and custom or even original code interface. Sample code written in Solidity is present as below:

```
contract FUND {  
  // the name of the fund  
  string public constant name = "TO THE MOON 005";  
  // settlement currency  
  string public constant base = "ETH";  
  // Balances save the amount of investment  
  mapping(address => uint256) balances;  
  // fund issuer (the authority to operate the fund)
```

```

address public manager;
// fund supervisor (the authority of supervision)
address public observer;
// hardcap
uint256 public constant hardcap = 1000;
// instant market price (calculating by settlement currency and market price)
uint256 public cap;
// level restriction of object currency
// level1: cap larger than 1b USD
// level2: cap below 1b but larger than 100m USD
// level3: cap lower than 100m USD
uint8 public constant level = 1;

// state 0:created, 1:open, 2:operating, 3:closing, 4:closed

uint8 public status;
// function list object index: save to IPFS (e.g. cc3bef279ae8)
string public ipfs_op_list_object;

// function total investment
function totalInvestment() constant returns (uint totalInvestment);
// function initial investment
function balanceOf(address _ investor) constant returns (uint balance);
// operate profits allocation after the dividend is due to pay
function withdraw() returns (bool success);
// if it is ETH then it will be accepted directly and records the amount of investment
function() payable;
//adjustment. "EOS/ETH", "BUY", "200". Help Oracle service and exchanges to initiate
API order
function operate(string pair, uint8 op_type, uint256 amount) returns (bool success);
// update market price through Oracle
function refreshCap() returns (bool success);
}

```

### 3.3.2 Data Schema

#### ✧ 3.3.2.1 Fund Action List

This chapter defines the structure of object data of saving the specific actions for the fund. Real data object will be saved in IPFS and its hash to smart contracts as index.

```
"op_list": {  
  "id": "cc3bef279ae8",  
  "fund": "e3fd8a426bc",  
  "tx": {  
    {  
      "op_count": "0",  
      "op_type": "BUY",  
      "pair": "EOS/ETH",  
      "amount": "208.482",  
      "price": "50.42",  
      "time_stamp": "201806170612482",  
      "fee": "8.32 OPX",  
    },  
    ...  
  }  
}
```



## IV Product Design Based on Opes Protocol

OPES Protocol is a protocol collection designed to deal with issues concerning decentralized digital investment and provide protocol-layer support for various DApp and third party digital currency financial platform.



Opes Protocol is developed on the basis of digital asset management. Technically, we fundamentally wish to use blockchain technology to solve problems, including high investment threshold, insufficient stability, excessive intermediaries and non-transparent procedure. The objective is to avoid human factors and obtain more liquidity and flow. Our target group consists of not only investors of digital currency, but also traditional investors and investment service providers.

For the long-time cost in development uncertainties in technology, we will push forward the project comprehensively based on the principle of application launching:

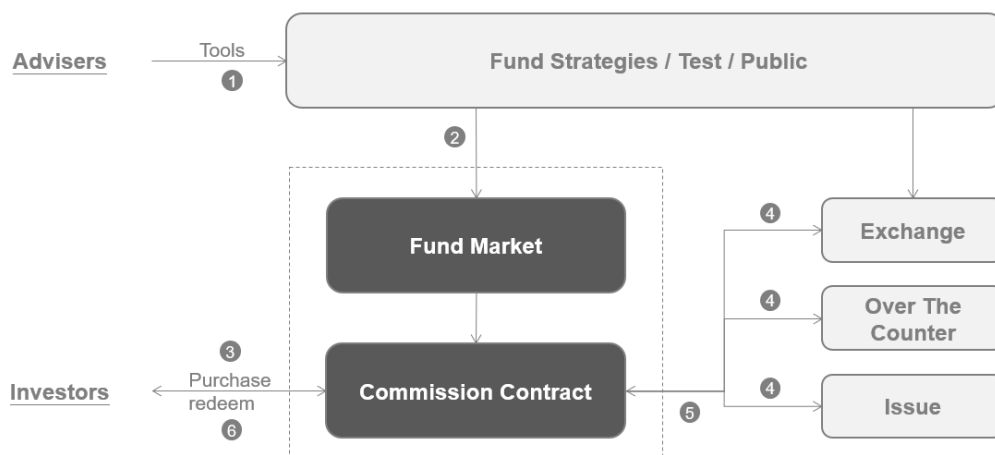
1. To complete the development of fund investment DApp (application of blockchain)
2. The development and operation of investors' community. To complete the role shift from the investment to the price of digital currency to DApp user.
3. To complete the proof of concept of Opes Protocol through DApp.
4. Asset management platform based on Opes protocol.
5. Protocol stack of Opes protocol.
6. Opes team is only the technology and governance provider allowing for the ecosystem of Opes.

### 4.1 Digital Asset Investment DApp

No matter the primary Opes DApp application or the future products of the platform, even the whole ecosystem, there are still three problems remaining unsolved:

- The risk of digital currency or other asset with lower value, and better returns
- A fair and transparent investment
- Compliance of digital asset investment in the whole financing system

Service procedure of Opes protocol DApp



1. Consultants use OPX to make fund strategy, testing, launching and other work through protocol tools.
2. Relative funds and financial derivatives use OPX are present in the market after compliance through smart contracts.
3. Investors subscribe the order by tokens like ETH and OPX.
4. Smart contracts operate the order through restrictions and clauses of the contracts.
5. Digital asset market settles the fund on due.
6. Investors redeem the investment.

| <i>Role (characteristics)</i>   | <i>Opes Protocol DApp</i>   |
|---|---|
| <i>Participants of different links (information disclosure/transparency)</i>    | <i>Transactions in the whole network are written into blockchain (timestamp), and information like the asset and life circle of the financial institutions are disclosed through blockchain. All the nodes participate in the ledger and distributed data storage</i> |
| <i>Investor (tamper-resistant asset)</i>  | <i>Key information is written into the consensus system of blockchain, and asymmetric encryption technology guarantees the authenticity, tamper-resistance and destroy of the database, so as to increase the reliability of the asset and reduce the risk.</i>       |
| <i>Financier (to improve the efficiency of high-quality targeted financing)</i> | <i>Autonomous operation of smart contracts, presence of legal institutions, replaceable paper contracts and reduction of offline approval procedure.</i>  |

## 4.2 Operation Plan of Alpha-Investor Community

The blockchain consensus originates from the community, where we develop, cultivate and listen to our users. Opes protocol, as a protocol stack of decentralized digital investment ecosystem, intends to provide controllable and safe development environment for digital assets, more experts and non-professional investors in financial system and more operability and liquidity for digital finance.

We encourage the participation of the whole community because the development process needs their constant exploration. At the meantime, more engagement of people from the community can boost the demand and lead the progress in technology.

The community is going to attract:

- Technicians, geeks interested in the project and blockchain fans
- Professional investment advisors who has professional financial knowledge
- DApp service providers, such as centralized or decentralized exchange centers, loan platforms and bill market
- People or institutions participated in our nodes
- DApp users
- Token investors, including cornerstone and private placement institutions and initial and future investors
- Other training, media and regulation institutions

What we pursue is the real application of blockchain technology and we hope community investor can gradually become our users, developer as well as regulators.

## 4.3 Digital Asset Management Platform Based on Opes

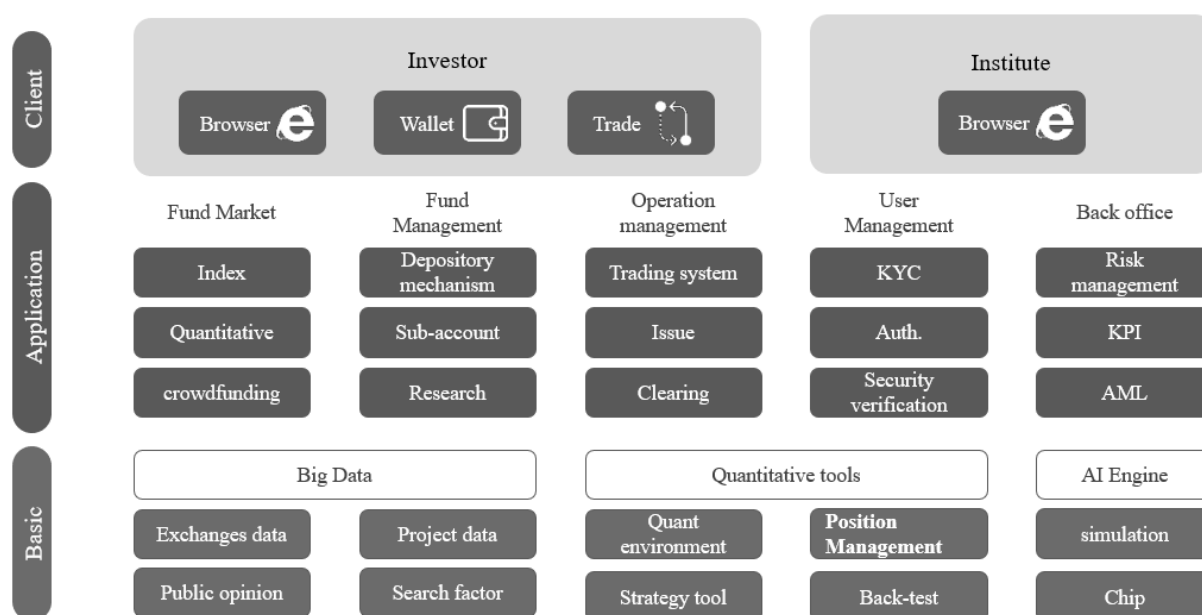
Opes protocol is a set of solutions to decentralized digital asset investment ecosystem. Opes protocol consists of several protocols to establish asset management platform and digital financial platform of different characteristics and properties to attract more investment.

- *:digital asset circulation protocol*
- *:fund share transaction protocol*
- *:registry and clearance protocol*
- *:decentralized fund market protocol*
- *:multi-sidechain and expansion protocol*
- *:digital currency financial product design protocol*
- *:quantitative investment development port protocol*
- *:data persistence protocol*
- *:fair revenue ranking and assessment protocol*

- incentive and dynamic regulation protocol

Theoretically, Opes protocol can support any smart contract platform without restrictions for bottom-layer public blockchain. Based on the comparatively mature Ethereum, Opes will develop DApp and development tool package, build community of investors and advisors, test the sustainability and robustness of the economy and update the protocol constantly.

Therefore, to provide better service and gain recognition of the market, Opes will develop operable tools and platforms, namely digital asset management platform, to obtain more technical examples for itself.



Functions that digital asset management platform based on Opes can achieve:

### A. Circulation and Sale of Fund

Multi-conditional smart contracts support the automatic circulation of fund. Circulation and smart contracts provide pricing of financial products, transaction rules, information of exchanges, transaction, data visiting, rate setting and dividend calculation. Excellent dealers and asset managers can apply for the circulation of fund and asset management products to secure or increase the value of users’ asset and at the same time get paid. The platform also provides comparatively strong financial derivatives, including digital currency portfolio, Index fund and ETF. According to the real situation and credit record, platform will issue fund for relative practitioners, after which the operation and clearance will be done through transaction on exchange and over-the-counter transaction engine.

**Over-the-counter transaction:** various assets are related to over-the-counter settlement on due and subscription, conduct restricted settlement and subscription according to the smart contracts.

**Transactions on exchange:** investors can transfer the digital currency into the smart contract account

with multiple regulators and get fund shares correspondingly. at the same time, they can set the rule that digital currency is only allowed to withdraw to the smart contract account to guarantee the asset safety.

**Decentralized transaction:** smart contracts will be automatically executed based on Opes protocol. The whole process of investment and settlement uses cross-chain and multi-sidechain technology.

## B. Quantitative Investment Developer Tools

Quantitative transaction strategy is made on the basis of various algorithms, including the genetic algorithm Franklin Allen ever used to find the optimal transaction rules [7]. Tak-chung Fu has found the best admission portfolio from the sea of technical indicators and optimized the portfolio by genetic algorithm [8]. Tiah-jen Chang took risk into consideration and selected the technical indicators through genetic algorithm [9]. Developers of Opes platform can develop different investment portfolio, transaction strategy and trend analysis based on Opes protocol. All the investments have different risk preference and expected return rate, such as currency portfolio, limit order, hedging and currency agreement. Developer tools also provide diverse testing environment for various investment strategy to improve the reliability and effectiveness of quantitative strategy.

### *Example of High-Frequency Transaction for Toll Development Logic*

1. To get strategy leading to profits through creating liquidity
2. Predatory algorithmic trading strategy requires close studies and exploration of previous data. Deliberate manipulation is able to lift the buying price or lower the selling price to gain profits.
3. Market transaction strategy. Through offering a certain transaction price to the exchanges constantly and meeting the demand of different investors, free capital can be used to trade with investors.

## C. Fund Market

The platform will find high-quality strategy publishers (institutions/individuals) and provide multi-dimensional assessments of release strategy/fund performance, including compound yield, alpha coefficient, maximum retracement, etc. Exploring strategies and fund portfolios with growth potential and investment value, providing multi-dimensional support for potential and high-quality funds (strategies); granting financial support based on comprehensive considerations of factors such as the scale of the practice, the number of strategies, and strategic capacity; Observing the pool and reducing the background investigation requirements of agency sales as appropriate; other support required by the quality fund.

## D. Risk Modeling Tools

The investment characteristics of digital assets provide the introduction of multiple modeling environments and impact factors.

Examples of the average income and return:

Let  $X$  be a random variable describing the loss of the investment fund portfolio,  $F(x)$  is its probability

distribution function, and the confidence level is  $a$ ,

$$\text{Then: } \text{VaR}(a) = -\inf\{x | F(x) \geq a\}$$

The platform will provide corresponding modeling tools and API interfaces for third parties to provide operational model design tools for risk calculations.

### **E. Digital Identity Certification and Anonymity**

The digital identity system tools perform anonymous reputation ratings through verifiable anonymous and cryptographic signature technology, which can be evaluated without extracting the user's identity. This rule allows high-quality users to increase platform loyalty and frequency of use.

- Avoiding malicious score gaining behavior
- Avoiding user information disclosure
- Improving the reliability and authenticity of the rating and let the identity rules provide a virtuous cycle for the ecology.

### **F. Audit and Compliant Smart Contracts**

The account detail security compilation may involve the complete information of accounts initiate every transaction and the history records (transmission details, target information, hosting information, entity information, etc.). It can provide data support for smart contracts. Once the contract threshold is exceeded, the contract audit investigation (non-human) can be launched. The corresponding data can be applied to the data holder for opening and serving as the standard for the evaluation.

The platform does not reserve data, but smart contracts limit the conditions that restrict noncompliance so that the financial system can operate under the rules. When necessary, smart contracts can be used to verify the relationships between their sources and individuals, businesses, and sub-entities.

Since all transactions involving specific customers can be automatically traced, these records will serve as evidence that banks are required to comply with anti-money laundering requirements so that they can quickly achieve compliance with regulatory requirements.

### **G. Other Services**

Instrumental service functions for asset entrusting party, management party, custodian party, and consignor in the operation of asset changes, investment details, etc., including depository mechanism, sub-account system, risk management system, settlement system, investment research system, transaction System and performance monitoring systems, etc.

#### 4.4 The Ecosystem Based on Opes Protocol

*Constructing an autonomous blockchain financial ecology, de-intermediate it by channelization, and returning to the essence of asset management.*

Opes Protocol's vision is to break the solidified structure of "ABCD" in traditional finance with the technical characteristics of blockchain. The Internet has solved some of problems, but the fundamental problems still need to be solved by distributed consensus.

We can understand the intentions of investors, financiers and even regulators. The essence of this is the overall ecological reengineering of the asset management industry. The synergy of financial supervision will continuously compress the arbitrage space of different entities, and strictly control the fund pool business. Detailed rules for portfolio concentration risk contribute to financial compliance and risk control.

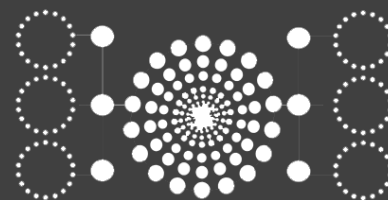
Looking ahead, future asset management institutions of all types will not be able to continue to rely on "dividends" to engage in information asymmetry, and the ability to actively manage their businesses will become the core competence of asset management institutions. The "decentralization" of asset management business will also eventually solve the current over-financialization problem, which will in fact benefit high-quality projects and the real economy.



## V Governance

We have to consider what an organization is. In terms of structure, organization is a set of agreements among participants and entities (e.g. staff, other organizations, machines). These agreements are presented as contracts, internal rules, official and unofficial treaties, principles, processes and procedures.

Governance defines different entities (e.g. managers, employees and owner), responsibilities, property rights, payment, operation and other factors.



In the ecosystem of distributed asset management, we need protocols that can be executed automatically by blockchain-based smart contracts. These protocols, namely Opes protocol, is open, safe and of accountability and transparency. Besides, any party can be confident that promise would be saved as intact. Therefore, based on blockchain smart contracts and centralized and efficient management, we set up a governance model for distributed asset management, namely the organization with four rights separated.

The goal of establishing an organization with four rights separated is to build a safe and reliable distributed investment model.

### Organization 1: Decision Maker

It refers to the organization or individual that has the power to make the decision on investment. Decision makers can explore and develop financial derivatives, allocate asset portfolio and execute investment plan. The organization only acquires the right of making decision, without access to the fund.

### Organization 2: Executer

This term refers to the organization or individual that has the right to operate the fund based on the decision made by the organization of decision making. As the fund is stored in the smart contract, the execution of the fund is done by the machine and the organization together. The weight, qualification and information of various organizations of execution will be involved while the machine will adopt sidechain, cross-chain and interactive methods to conduct automatic execution.

### Organization 3: Supervisor

The organization or individuals with the right of supervising the fund flow can freeze or audit the fund and the account. Asset management is a complete financial ecology, which needs the supervision in risk prevention and compliance because any problem can lead to systematic risk. Either the early period or the middle and later period, supervisor is desperately needed.

### Organization 4: Operator

The organization or individual with the right of operating infrastructure should provide investment services, including fundamental function, technical support and new function development and at the

same time have no engagement in actions related to funds precipitation and management.

With the development of management platform and governance model for distributed asset, all the data and functions are put on the distributed servers, leaving no chance for anyone to shut it down. In this way, the investment management service can realize self-operation.

It should be stressed that every organization is distributed, and they are gambling with each other while they also have consensus. Organizations can shift roles as consensus can be achieved among organizations after inner-organization consensus formed. The shift can give a full play to resources during the governance so to make sure the consensus is efficient, effective and safe. After the TPS of blockchain reaches a million, the governance model can fully transit to DAO.

The idea of four separated right of Opes protocol is set up both on blockchain smart contract and centralized organization or individual. It is between DAO (Decentralized Autonomous Organization) and centralized organization. In finance sector, risk prevention is always the priority. A balance should be found between centralization and decentralization before the true capital flow is activated and then is can embark on the path of real distributed autonomy).

## VI Core Team

The traditional asset management business has a history of hundreds of years, the industry still needs to be inherited. The team members are composed by Blockchain experts and senior from the financial investment banking industry and asset management industry.

### **CEO Xiaobo Long**

CEO Xiaobo Long graduated from Fudan University, engaged in financial investment and management for more than 20 years, be familiar with capital market in China and HK, founder of multiple securities Ltd and public offering of fund, specialized in asset management, securities investment, merger and acquisition, company restructuring, financial advising, and etc.

Worked for ROC securities as Vice President, be primarily responsible for the investment bank and overseas market business.

XiaoboLong was the vice president of Dapeng Securities, be responsible for investment banking and overseas market operations.

XiaoboLong was formerly the first general manager of Dacheng Fund Management Co., Ltd., Dacheng Fund was established in 1999. Dacheng Fund is one of the first batch of “Old Ten” fund management companies approved in China. It has the national social security fund investment management and overseas distribution product manager qualifications, basic pension insurance fund securities investment management business qualifications, entrusted management insurance funds, insurance protection fund investment management, specific customer asset management and QDII business qualifications.

XiaoboLong is currently a chairman and general manager of a number of domestic and foreign listed companies, as well as the general manager of Boein Investment and Baifang Asset Management. His investment cases include: Qihoo 360, Focus Media, Guotai Junan Securities, Great Wall Securities, Bank of Beijing, Chengdu Commercial Bank, SkyIntelligent, and etc.

### **Co-Founder & Operation Director Leslie Van**

Leslie Van got FMBA from Coventry University. He is the Co-founder of ChainBank Capital. He primarily researched on finance, securities, equity investment, pre-listing tutoring and etc. Leslie currently focus on investing in Blockchain-based project including: OMG, EOS, Orchid protocol and etc.

### **CTO Wentao Zheng**

Wentao Zheng got bachelor and master of Computer Science, Nanjing University

He has worked in Google for more than 8 years in the United States and worked as project leader and architects on a number of projects such as Google Cloud and Google X (Confidential Project). He

designed the overall technical architecture for Google's core projects: storage, synchronization protocols, server-to-client push, and cross-platform shared data layers. He worked at IBM Research Institute, be responsible for researching intelligent human-computer interaction and information visualization and design development which has 7 research papers and 3 patents.

### **CRO Yi Xing**

YiXing worked for various large financial institutions, worked as senior level for CICC Hong Kong and Boein investment, specialized in financial risk management and investment management, handled investment management and risk management of tens of billions, gained excellent investment performance by investing in 360 Security Center, Focus Media, Bank of Chengdu, Guotai Junan Securities, Bank of Beijing Co., Ltd. And etc.

### **CMO Mia Shang**

Mia got bachelor degree of finance from Northeastern University. She worked as CMO for DAppLabs, primarily accelerating for more than 20 overseas high-quality Blockchain-based projects. She worked as consultant for Klynveld Peat Marwick Goerdeler, serving for Shanghai Pudong Development Bank and other multiple larger listed companies. She worked for Futu Securities International (HONG KONG) Limited. She worked for MIT-Chief as Sponsorship manager. She currently primarily focuses on researching how token economy will change the relations of production in financial industry.

### **Investment Director VICTOR.LAU**

VICTOR.LAU got an MBA degree from Laurier University in Canada. He has worked as investment manager of Canada's Lianda Financial Group and investment manager of Shenzhen Yingxin Venture Capital. He has more than 25 years of domestic and foreign fund management experience, be familiar with the global securities market and investment products, and has solid economic theory and Mathematical valuation modeling skills, with a deep insight into the global market linkage. Mr. Liu invests with value investing , and his investment style is conservative and stable. He has a deep understanding of Hong Kong stocks in industry such as TMT, consumer electronics, insurance, medicine, education and other industries, and is a stock picker in related industries. Mr. Liu has been responsible for managing the Long Power Fund since July 2012. In 2013, Long Power Fund was ranked as second in the China Overseas Hedge Fund (the private placement network). The total revenue during the management period was 231.52%, and the compound annual return was 26.6%.

### **Finance Director TIGER.WU**

TIGER.WU worked as CFO in Goldman Sachs and has worked in overseas companies in financial and related industry for more than 20 years, primarily focs on securities and futures. Worked as CFO in Qiankun Futures company, Da Cheng Fund Management Co., Ltd. and Yintai Securities. TIGER.WU worked as financial manager in Coca Cola and finance department general manager in

Qian Kun futures.

### **Business Development Director Yiling Mu**

Yiling Mu is the founder of Lianyin Capital, Co-founder of BitAlpha, Co-founder of ElevenEx, deeply participated in multiple Blockchain-based business, early invested in various high-quality projects. He graduated from Swinburne University, worked for Whitehorse and other Blockchain-based social media.

### **Product Director Simon Mao**

Simon worked as product business director in Wanxiang Blockchain Laboratory, be responsible for blockchain product application framework design in industry such as traceability, logistics, energy, supply chain finance and etc. Worked as senior consulting advisor in distributed energy resources for fortune 500, and founding IOT company. Focus on research on distributed management model and Blockchain product application framework.

## VII Advisor

### **Jing Zhu**

Mr. Zhu Jing is the Chairman and General Manager of Fukun Investment.

Mr. Zhu Jing worked as the listed director of the Shenzhen Stock Exchange, a visiting researcher at Harvard University and a vice chairman of Shenzhen New Fortune Multimedia Management Co., Ltd.

Mr. Zhu Jing is currently the Chairman of Shenzhen Fukun Venture Capital Co., Ltd., and Shanghai Fusheng Investment Management Co., Ltd., Director of Nanjing Nannong High-Tech Co., Ltd., and Adjunct Professor of Shanghai Finance University Financial College. With more than 18 years of experience in securities industry, Mr. Zhu Jing is familiar with domestic and international capital market operations, and has rich experience in equity investment and corporate investment and financing planning and practical operations.

Mr. Zhu Jing got doctor of economics from Fudan University and a senior economist qualification.

### **Charles Xue**

Charles Xue is the famous angel investor, Hongyi Zhou, chairman of Qihoo 360, called him " The best Chinese angel investor." He worked as Chairman of China E-Commerce Network 8848 and Chairman of China Learning Network. Charles Xue is currently active in China's entrepreneurial circle, projects he invested in include Car Home, DIANRONG, Lvmama, 265, Snowball, USPARD, 51 credit card, Sensors Data, Dealextrime, EasyTransfer and etc. Charles Xue is one of the earliest investors who are focus on digital currency and Blockchain investment as traditional investor. In 2017, he invested in 20 Blockchain projects.

### **Yunpeng Li**

Yunpeng is the founder & CEO of SkyIntelligent. He graduated from the Computer Science School of Nanjing University and the Master of University of Wisconsin- Madison. He worked as the R&D Director of Oracle's database department and led the team to make outstanding contributions to Oracle Database 11g, 12C and Exadata. He specialized in the organization and management of the R&D system and the design of intelligent system architecture.

### **Jeremy Chen**

Jeremy has worked in large international financial institutions for many years, including Citigroup and Standard Chartered Bank Group, and has extensive experience in investment banking and commercial banking. Jeremy has been responsible for alternative investment business for many years in the China Headquarters of the Standard Chartered Bank Direct Investment Department. Jeremy graduated from University of Chicago Booth School of Business MBA (Graduation of Honor).

From 2012 to present: Deputy CEO / Executive Director / Legal Representative of China Billion Resources Limited (HK.0274)

From 2010 to 2012: Alternative Investment Department in Standard Chartered Bank

From 2000 to 2010: Citigroup Asia Pacific Headquarters Special Asset Management, Citigroup Shanghai and Citigroup Taiwan's Corporate Finance and Global Transaction Bank. He has over 17 years of experience in banking transaction finance (including e-commerce and electronic payments), corporate finance, alternative investments, asset restructuring, financial advisory, loan financing, and special asset management.

### **Qiyang Sun**

Qianhai Zhixing Capital CEO, MBA of Open University of Hong Kong, currently a student in BSN (Business School Netherlands) DBA, has more than 10 years of experience in equity investment, proficient in corporate strategic planning, capital operation and other related business, has served as a well-known state-owned venture in Fujian The general manager and chairman of "Torch Ventures" was named as one of the top ten investors in Fujian in 2015. In 2017, he was awarded the TOP100 by the founding partner of the parent fund, and the vice president of the listed company of Shenzhen listed company. A number of social positions; investment in more than 30 listed projects, and participate in multiple blockchain project investments.

### **Bingyang Zhou**

Cofounder of Relativistic Capital, the chairman of the Chelian Group, the co-founder of the VOS car chain, the founder of Che Jin Internet, the deputy director of the Blockchain Research Center of Southeast University, and the partner of the Southeast University Blockchain Research Institute LLC. Participated in investment in pst, beechat, rct, HMC, btm, ulsee, XMX, VOS and other projects

### **Dr. Zhengwei Xie**

Currently a Ph.D. in the Center for Quantitative Biology at the School of Physics, Peking University, and a Ph.D. in the University of California, San Francisco.

From 2016 to present, work as a specially appointed researcher at Tenure-track, the Institute of Basic Medicine of the Peking University School of Medicine and the Institute of Systems Biomedical Research. Academic direction: Medical Big Data, Financial Physics, Artificial Intelligence, Bioinformatics, Systems Biology.

### **Celilia Wang**

Bachelor of Computer Science and Master of Distributed Computing from Beijing University of Aeronautics and Astronautics. Fund investment manager, mainly participate in Blockchain-based project investment and incubation and technology consulting; Voyage project technical consultant; Participating in incubation of ULSee, Tube, DAC, WEtoken, Crptube, and etc.; early investors in blockchain projects includes Cortex, Elf, ONT, and etc.;

# VIII Opes Protocol Token - OPX

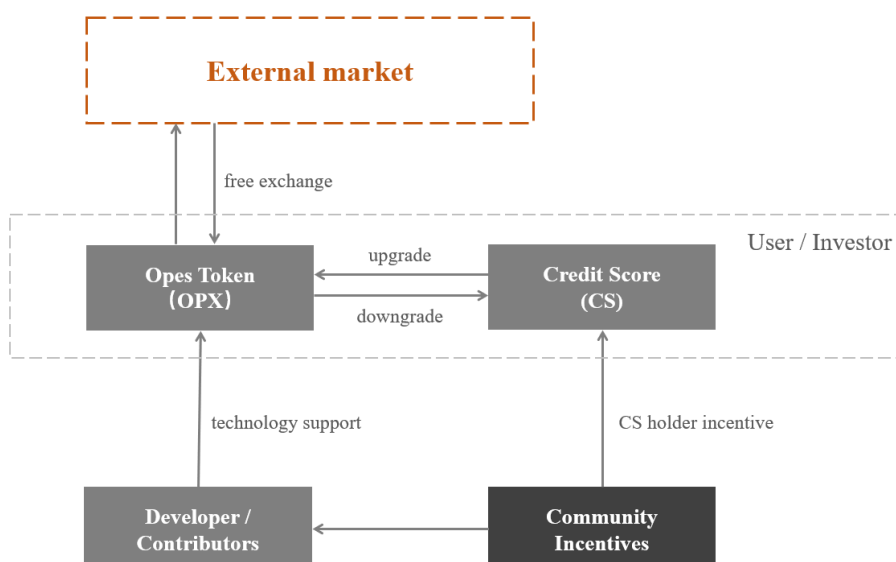
## 8.1 Applications and Economic Incentive Mechanism of OXP

Applications of token:

1. To issue derivatives of diverse digital assets and mortgage of services
2. Investors can directly participate in diverse digital assets derivatives and services settled in OPX token
3. To pay for the fund managers and to give bonus
4. To purchase the third-party services on OPX platform, such as fiscal audit, safety audit and legal compliance service
5. To purchase OPX quantification and other relevant tools for asset management, such as models and tests
6. To pay for OPX protocol and charges of using SDK

Community-incentive OPX Allocation

1. To award Credit Score holders in OPX ecology
2. To award ones with high investment ability in OPX ecology
3. To award OPX community developer and outstanding contributors





## 8.2 Calculation of Credit Score

$f_s(x)$  represents Credit Score

$$\begin{aligned} f_s(x) &= f(x_{act}, x_{tra}, x_{amo}, x_{num}, x_{eva}) \\ &= \lambda_1 x_{act} + \lambda_2 x_{tra} + \lambda_3 x_{amo} + \lambda_4 x_{num} + \lambda_5 x_{eva} \end{aligned}$$

$x_{act}$ : to measure the operation in the whole ecology

$x_{tra}$  : to count the number of transactions in the whole ecology

$x_{amo}$ : to calculate the total trade volume of the whole ecology

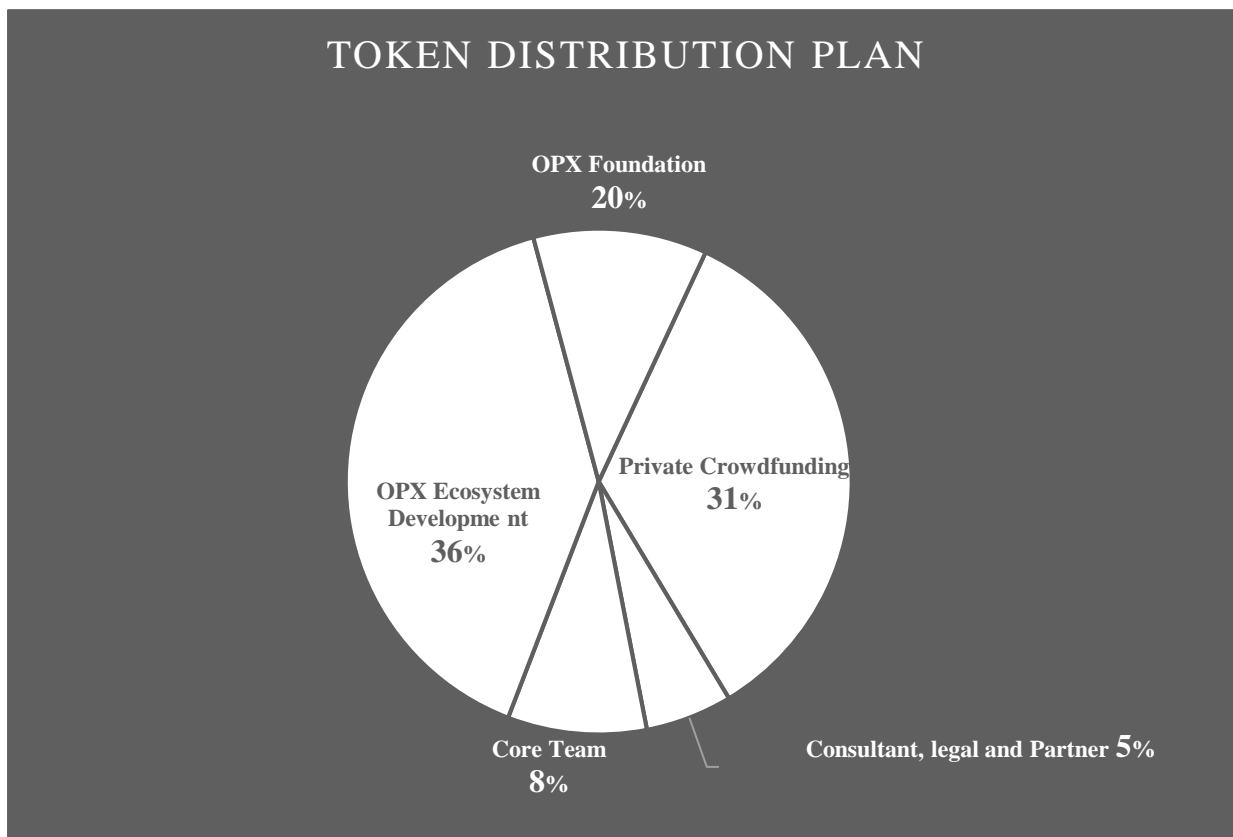
$x_{num}$ : to count the frequency of interaction between the ecology and roles in other ecologies

$x_{eva}$ : to assess other roles in the ecology

$\lambda_1, \lambda_2, \lambda_3, \lambda_4, \lambda_5$  are relative scale factors which would be adjusted according to the feedback of the ecology

### 8.3 Circulation and Use of Pass (OPX)

OPX Genesis Block will initially circulate 20,000,000,000 Opes tokens according to the computer time.



**31%** for Cornerstone & private investment. 5% for cornerstone investors (*six months' holding*); 26% of them for private investors (*part will be locked and part will be payed*). This part will be used to operate Opes' team, develop team protocol layer and application, and other services including marketing, legal service and digital assets.

**5%** for consultants, legal experts and partners. As a blockchain project of financial capital management, OPX is an indispensable force for financial advisers and legal experts. It will also provide standardized design and guidance for blockchain assets.

**8%** of the initial tokens will be paid to the team for their contribution to the development of Opes protocol (*the position will be locked for three years*)

**36%** of the tokens will be invested for OPX ecosystem including marketing and community development, incentives in digital assets and the development of the digital financial asset economy. The tokens are awarded as incentives for people developing DApp realting to digital finance and asset management, such as strategy providers, developers and leading persons of the industry (senior managers, chairmen, professors, geeks). They are the key target group and should be funded to help

DApp of Opes protocol develop commercial applications and take the market as early as possible.  
Objective: to give back to the OPX asset management community and create effective liquidity;  
Methods: relevant channel airdrop, developer incentive, community operation incentive and ecological construction incentive.

**20%** of the tokens will be put into OPX foundation to facilitate community development, commercial ecosystem development, first-tier researches and researches on virtual assets.

# IX Roadmap

|                         |   |
|-------------------------|---|
| <p><b>2017-Q1Q2</b></p> | <p>(Done) studies on the infrastructure rules of blockchain technology in financial<br/>                 (Done) analysis of asset management</p>  |
| <p><b>2017-Q3</b></p>   | <p>(Done) analysis of financial compliance<br/>                 (Done) studies on investors and product design</p>  |
| <p><b>2017-Q4</b></p>   | <p>(Done) framework design of protocol layer<br/>                 (Done) studies and analysis of digital currency market actions</p>  |
| <p><b>2018-Q1</b></p>   | <p>(Done) market investigation and data collection<br/>                 (Done) design of financial compliance<br/>                 (Done) verification of blockchain solution to the problems concerning asset management</p>   |
| <p><b>2018-Q2</b></p>   | <p>(Done) compliance verification of digital assets in financial system<br/>                 (Done) design of financial compliance<br/>                 (Done) drafting of white paper<br/>                 (Done) verification of products<br/>                 (Done) releasing of the white paper</p>  |
| <p><b>2018-Q3</b></p>   | <p>(Ongoing) financing for the programs<br/>                 (Ongoing) documents of compliance design</p> <ul style="list-style-type: none"> <li>• DApp design and development</li> <li>• Development of some protocols in Opes protocol stack</li> </ul>   |
| <p><b>2018-Q4</b></p>   | <ul style="list-style-type: none"> <li>• Releasing of Opes engineering documents</li> <li>• Building of testing website</li> <li>• releasing of Alpha &amp; Beta version based on Opes protocol and UAT</li> <li>• online releasing of DApp</li> <li>• Opes protocol development and verification of some protocols</li> <li>• DApp operation and OPX economy operation</li> </ul>    |
| <p><b>2019-Q1</b></p>   | <ul style="list-style-type: none"> <li>• Opes protocol development and verification of some protocols</li> <li>• Product design PRD of asset management platform based on Opes</li> <li>• Design and verification of platform products</li> <li>• Opes protocol development and verification of some protocols</li> <li>• Development of digital asset management platform</li> </ul> |

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|                |   |
|----------------|---|
| <b>2019-Q2</b> | <ul style="list-style-type: none"><li>• Accomplishment of some functions of the digital asset management platform</li><li>• Opes protocol development and verification of some protocols</li><li>• Releasing of Opes protocol</li></ul>           |
| <b>2019-Q3</b> | <ul style="list-style-type: none"><li>• Building of testing website for the platform</li><li>• Releasing of digital asset management platform Alpha and UAT test</li><li>• Online releasing of platform products based on Opes protocol</li></ul> |
| <b>2019-Q4</b> | <ul style="list-style-type: none"><li>• Releasing of Opes protocol</li></ul>  |

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## X Foundation Disclaimer

Important: Please be sure to read the following statement in full:

### **a) Risk of losing encrypted digital currency due to loss of certificate**

The purchaser's encrypted digital currency is likely to be associated with an account before being assigned to the purchaser.

The only way to enter to the account is the relevant login certificate selected by the purchaser. Loss of these credentials will result in the loss of the encrypted digital currency. The best way to securely store your login credentials for the buyer is to separate the certificates into one or several places for secure storage, and preferably not to store and expose them in workplace.

### **b) Risks associated with the Ethereum Core Protocol**

Encrypted digital currencies and applications are developed based on the Ethereum Core Protocol, therefore, any failure, unanticipated functional problems or attacks from any of Ethereum's core protocols can cause encrypted digital currencies or applications to stop working or function in an unpredictable way. In addition, the entire value of the Ethereum may also be reduced in value in the same way as the encrypted digital currency or in other ways.

### **c) Risk associated with the purchaser's certificate**

Any third party who obtains the purchaser's login certificate or private key may directly control the ownership of purchaser's encrypted digital currency. To minimize this risk, the purchaser must protect their electronic device from unauthorized access requests and access to the device.

### **d) Relevant policy risks**

Blockchain digital assets have become the main target of regulation in all major countries in the world. If the supervisors impose on blockchain digital asset market, the entire market will shrink or become unstable. For example, if the government restricts the use or sale of encrypted digital currency (or related digital assets), the entire blockchain digital asset market may be restricted, hindered or the development of blockchain applications even be directly terminated.

### **e) Risk that the application lacks attention**

There is possibility that the platform application lack of use from a large number of individuals or organizations, which means that the public does not have enough interest to develop these related distributed applications. Such a lack of interest from the public may have a negative impact on encrypted digital currencies and applications.

### **f) The risk that the relevant application or product does not meet the standard**

Since this project is still in the development phase, the project self and buyer should expect risks that significant changes may be made before the release of the official version, any function or form of the application or encrypted digital currency (including the participant's behavior), and expectations or imaginations may not meet expectations for this project.

Any situation such as any erroneous analysis, a design change or other mistakes may cause this type of risks.

**g) Vulnerability risk or risk of rapid development of cryptography**

The rapid development of cryptography or the development of technology such as the development of quantum computers, or the risk of cracking to the encrypted digital currency and platform, may lead to the loss of encrypted digital currency.

**h) The risk of cryptographic digital currency mining attacks**

Like other decentralized cryptographically encrypted digital currencies, blockchains for applications are also vulnerable to mining attacks, such as double-flower attacks, high-powered proportional attacks, “self-interested” mining attacks, and excessive competition. Attacks, any successful attack is a risk to the application of encrypted digital currency, although the industry is trying best to improve the security of the system, but the risks mentioned above still really exists.

**i) Risk that lack of maintenance or use**

Encrypted digital currency should not be treated as an investment, although encrypted digital currency may have a certain value after a certain period of time, but this value may be very small in the absence of maintenance or use. If this happens, there may be no follow-up followers or few followers without this platform. Obviously, this is very unfavorable for encrypting digital currencies.

**j) The risk of failure in the application**

The platform may fail due to various reasons, and the service cannot be provided normally. In severe cases, the user may lose the encrypted digital currency.

**k) Other unexpected risks**

Encrypted digital currency is a new and untested technology. In addition to the risks mentioned in this white paper, there are risks that the team has not mentioned or expected. In addition, other risks may occur suddenly or occur together with a variety of risks already mentioned above.

**l) Other instructions**

Fully understand the development plan of the operating platform and the risks associated with the blockchain industry.

**Disclaimer**

This document is only used to convey the information and does not constitute relevant opinions on the sale of this item. The above information or analysis does not constitute an investment decision. This document does not constitute any investment advice, investment intention or does not instruct investment.

Any conduct related to this white paper should not be considered as a participatory swap, including requesting a copy of this white paper or sharing a white paper with others.

The Opes team will continue to make reasonable attempts to ensure that the consultations in this white paper are true and accurate. During the development process, the platform may be updated, including DApp development, compliance document release, OPX platform development, and Opes protocol development.

This document does not constitute or be construed as an operational recommendation for trading securities, nor any kind of contract or commitment. Relevant potential users should have a clear understanding of the risks of the project. Once the investor participates in the investment, it means he or she understands and accepts the risk of the project and is willing to personally bear all the corresponding results or consequences. The operation team does not assume any direct or indirect losses caused by participation in the project.



## Reference

- [1] [https://www-935.ibm.com/services/cn/gbs/ibv/pdf/Unblocking\\_the\\_blockchain.pdf](https://www-935.ibm.com/services/cn/gbs/ibv/pdf/Unblocking_the_blockchain.pdf)
- [2] Baker, Jessi. "Trust in the Digital Age." *Provenance News*. October 13, 2016. <https://www.provenance.org/news/movement/trust-digital-age/>
- [3] 我们把互联网的发展定义为三种: 信息互联网即解决信息互通互联的根本问题及基础建设, 数据互联网即信息化数据的有效关联, 价值互联网即数据的 P2P 信任及区块链化的数据组织再造
- [4] <http://www.the-blockchain.com/docs/JP-Morgan-Juno-Distributed-Cryptolledger.pdf>
- [5] <http://www.coindesk.com/jpmorgan-juno-hyperledger-blockchain/>
- [6] S. Shalunov, G. Hazel, J. Iyengar, and M. Kuehlewind. *Low extra delay background transport (ledbat)*. draft-ietf-ledbat-congestion-04. txt, 2010.
- [7] Franlin Allen , Risto Karjalainen. Using genetic algorithms to find technical trading rules[J] *Journal of Financial Economics*, 51(1999): 245-271
- [8] Tak-Chung Fu , chi-pang chung , Fu-lai Chung. Adopting genetic algorithms for technical analysis and portfolio management[J]. *Computers and Mathematics with Applications*, 66(2013):1743-1757.
- [9] J.Chen *Essentials of Technical Analysis for Financial Markets*[J]. Wiley, 2010
- [10] Gorgulho, Neves, Horta N. Using Gas to Balance Technical Indicators on Stock Picking for Financial Portfolio Composition in *Proceedings of the GECCO*. Montreal[J]. Canada, 2009; 2041-2046
- [Other]
- Bitcoin: A peer to peer electronic cash system” at <https://bitcoin.org/bitcoin.pdf>
  - “A protocol for interledger payments” at <https://interlegder.org/interledger.pdf>
  - “Ripple – key feature” at <https://ripple.com/technology>
  - B. Cohen. Incentives build robustness in bittorrent. In *Workshop on Economics of Peer-to-Peer systems*, volume 6, pages 68{72, 2003.
  - 丁鹏 量化投资=策略与技术[M] 北京: 电子工业出版社, 2012